



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,064	03/15/2004	An Cao	IBX-009	1242
51414	7590	06/30/2005		
GOODWIN PROCTER LLP PATENT ADMINISTRATOR EXCHANGE PLACE BOSTON, MA 02109-2881			EXAMINER RAYMOND, EDWARD	
			ART UNIT	PAPER NUMBER
			2857	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/801,064	CAO ET AL.	
	Examiner	Art Unit	
	Edward Raymond	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-19 and 23 is/are rejected.
- 7) ☒ Claim(s) 9-11 and 20-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040507</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-8, 12-19, and 23** are rejected under 35 U.S.C. 102(e) as being anticipated by anticipated Bechhoefer.

Bechhoefer teaches a method of predicting the health of a plurality of tools (Claims 1, 12 and 23: see col. 3, lines 38-53) based on temporally ordered input data representing parameters indicative of tool health (Claim 1, 12, and 23: see Figure 1: Machine 12 and Sensors 14a-14c and also col. 4, lines 2-4), the method comprising the steps of: using a sliding time window to partition the input data into temporally displaced data sets (Claim 1, 12, and 23: see Figure 9); using non-linear regression to determine, based on the data sets, a set of predictive values relating to tool health at a future time (Claim 1, 12, 23: see col. 19, lines 16-20: The Examiner notes that the mapping method and the hypothesis testing is equivalent to the non-linear regression method claimed); and determining a tool-health metric based on one or more of the predictive values (Claim 1, 12, 23: see col. 3, lines 38-52).

Bechhoefer teaches a method wherein the tool-health metric is likelihood of tool failure (Claims 2 and 13: see col. 4, lines 51-56).

Bechhoefer teaches a method wherein the data sets include only historical data (Claims 3 and 14: see col. 17, lines 14-18).

Bechhoefer teaches a method wherein the data sets include discrete representations of continuous data (Claims 4 and 15: see Figure 19: The Examiner notes that the Observed Value is a discrete value and the data is continuous)

Bechhoefer teaches a method wherein the data sets include Fourier coefficients (Claims 5 and 16: see Figure 18A: FFT 564).

Bechhoefer teaches a method wherein the data sets include wavelet coefficients (Claims 6 and 17: see col. 4, lines 42-46).

Bechhoefer teaches a method wherein the data sets include operational data (Claims 7 and 18: see col. 4, lines 51-56).

Bechhoefer teaches a method wherein the data sets include maintenance data (Claims 8 and 19: see col. 1, lines 28-37 and also col. 4, lines 5-26).

### ***Allowable Subject Matter***

3. **Claims 9-11 and 20-22** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Quist et al. teach a distributed diagnostic system. Suermondt et

Art Unit: 2857

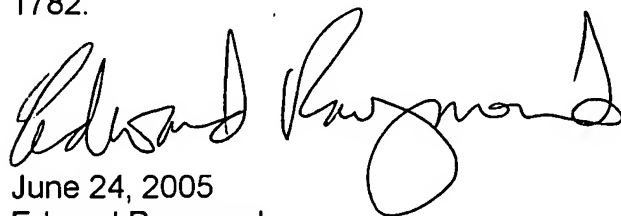
al. teach predicting the health of a computer system by determining a set of modifications involved in a proposed intervention to an existing system.

***Contact Information***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Raymond whose telephone number is 571-272-2221. The examiner can normally be reached on Monday through alternating Friday between 8:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-2221 for regular communications and 571-272-1562 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

A handwritten signature in black ink, appearing to read "Edward Raymond". The signature is fluid and cursive, with a large loop at the end.

June 24, 2005  
Edward Raymond  
Patent Examiner  
Art Unit 2857